1. (Previously Presented) A method for affecting thermoacoustic oscillations in a combustion system having at least one burner and at least one combustor, in which a gas flow forming in the region of the burner is excited acoustically, in which modulated injection of fuel is carried out, or both, the method comprising:

coordinating the acoustic excitations of the gas flow, the modulated injections of the fuel, or both, to simultaneously affect at least two different interference frequencies of the thermoacoustic oscillations.

2. (Previously Presented) The method as claimed in claim 1, comprising:

affecting two interference frequencies exclusively by acoustic excitation of the gas flow with different phases, amplitudes, or both.

3. (Previously Presented) The method as claimed in claim 2, comprising:

producing the acoustic excitation of the gas flow with at least one acoustic source, said producing including producing acoustic excitations of different phases, amplitudes, or both, via a common acoustic source or via at least two separate acoustic sources.

4. (Previously Presented) The method as claimed in claim 1, comprising:

affecting two interference frequencies exclusively by modulated injections of fuel with different injection times, different injection quantities, or both.

5. (Previously Presented) The method as claimed in claim 4, comprising:

producing modulated injections of the fuel with at least one control valve, the modulated injections with different injection times, different injection quantities, or both, being carried out via a common control valve or via at least two separate control valves.

6. (Currently Amended) ~~The~~ A method ~~as claimed in claim 1, comprising:~~ for affecting thermoacoustic oscillations in a combustion system having at least one burner and at

least one combustor, in which a gas flow forming in the region of the burner is excited acoustically, in which modulated injection of fuel is carried out, or both, the method comprising:

coordinating the acoustic excitations of the gas flow, the modulated injections of the fuel, or both, to simultaneously affect at least two different interference frequencies of the thermoacoustic oscillations;

affecting one interference frequency by acoustic excitation of the gas flow; and

affecting another interference frequency by modulated injection of the fuel.

7. (Previously Presented) A device for affecting thermoacoustic oscillations in a combustion system comprising:

at least one burner and one combustor;

at least one acoustic source configured and arranged to produce acoustic excitation of a gas flow forming in the region of the burner, the burner having at least one fuel supply device with at least one control valve for producing modulated injection of a fuel, or both;

a control system driving the at least one acoustic source, the at least one control valve, or both, to simultaneously affect at least two different interference frequencies of the thermoacoustic oscillations.

8. (Previously Presented) The device as claimed in claim 7, wherein the control system has a control path for each interference frequency to be affected, which, on an input side, has a frequency band-pass filter tuned to the respective interference frequency and, on an output side, is connected to the respective acoustic source or to the respective control valve, each control path containing a time delay element.